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A

SKETCH

OF THE

Medical Topography

OF

BISHNATH,

AND ITS IMMEDIATE NEIGHBORHOOD;

WITH AN

104783

ACCOUNT OF THE DISEASES GENERALLY PREVAILING IN ASSAM.

BY

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Assam Light Infantry.

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00104783

MEDICAL

Topography of Bishnath, &c.

Bishnath, its Latitude and Longitude, and altitude above the Sea.

BISHNATH, the head quarters of the Assam Light Infantry, is situated on the north bank of the Burrumpooter, in Lat. 26° 39′ N., Long. 93° 12′ 27″ E., and at an elevation above the sea of 202 feet.

Its distance from Gowalpara, Gowahatti, Terpon and Nowgong, the Stations below it, and from Somhauth and Suddra above, also from Calcutta.

It is distant from Gowalpara, the frontier station in Bengal, about 200 miles from Gowahatti, the principal civil station in Assam, about 120 miles from Terpon, the civil station of the north central division—32 miles and about the same distance from Rungagora, the civil station of the south central division—it is 80 miles distant from Somhauth, the capital of Upper Assam; and about 250 from Suddra, the extreme post on the N. E. frontier, and about 750 miles from Calcutta.

General description of the site of the Station.

The station is situated on a bold rocky point, which jutting out into the river a short distance above, and as suddenly retiring below to the north, forms a considerable promontory of upwards of a mile in breadth. This promontory is again divided by a small nullah to the eastward, formed partly by the inundations during the rainy season, and partly by a small stream called the Booreegong Nuddee, which flows from the Duffalo hills.

Bungalows and public buildings, of what materials composed, with cost of erection, &c.

On a high bank, chiefly composed of primitive rocks (gneis,) from 30 to 60 feet above the highest rise of the river, stand the bungalows of the European Officers, and the Regimental Hospital, having the lines of the Corps behind to the north, and the bazaar to the east along the banks of the small nullah.

The bungalows are constructed of strong timbers, having their walls made of a species of reed (Kugra,) covered outside with grass and inside with bamboo mats.

These houses, though inferior to the style of bungalows common in most cantonments, are nevertheless very well adapted to the country, as they can be erected within a month, or six weeks, at an expense of from two to four hundred rupees, and last with trifling repairs for three years; with the addition of glass windows and doors they form as comfortable a residence as can be desired.

Objections to all the buildings being of a temporary description, and the inconveniences experienced in consequence.

Excepting the Magazine, which is built with bricks, and tiled, all the public buildings and Serjeants' houses are composed of the same materials. The principal inconveniences resulting from these temporary buildings are the necessity of renewing them triennially, and the difficulty often experienced of procuring workmen when most wanted, as at certain seasons of the year when engaged at home on their agricultural labours, the promise of three rupees a month is not sufficient to induce them to work, while at other times, they gladly accept

two rupees, but even at this apparently small rate, labour cannot be said to be cheap, on account of the trifling quantity performed by an individual during a day.

Want of lime, the principal cause for there being so few pucka buildings, public or private.

At Gowahatti some of the public buildings and officers' houses are built with bricks, and it is to be hoped in a few years, pucka* buildings may become common all over the country, as excellent bricks can be made at a trifling cost, the materials for their manufacture being every where abundant. Lime is at present procured at very considerable expense from Sylhet. Limestone is found a few miles above Suddra, but can only be got at in the cold weather when the river is partly dried up, as most of the stones are not much larger than a man's fist, and very round or oval ; the Natives experience great difficulty in burning them in their rude kilns from their falling down and choking the fire.

Hospital well adapted for the purposes required, situation high and dry, and close to the river.

The Regimental Hospital is a commodious building, capable of holding 80 patients, who are ranged on bamboo benches along the sides, upon which they place their usual bedding or mats ; down the centre is an open space sufficiently broad to admit a dooly, and four people to walk abreast. One end is partitioned off, forming a medical store room and a place for the Native doctors, opposite to which is the guard room and a small apartment for the accommodation of Native officers who may wish to be in private : there is an eight feet verandah all

* Buildings of burnt bricks or stone and mortar are called *pucka*, those of unburnt bricks and mud *kutcha*.

round, which is well adapted for the convalescents exercising themselves in, and for out-door patients, which it is often necessary to accommodate with a place in hospital to prevent their dying from exposure to the weather, and from absolute starvation.

It is a melancholy fact that to many of the persons whose lives have been thus saved, and supported for weeks on charity, not a few of the petty thefts on their sick neighbours' property have been traced, and in not a single instance has any of them ever shown the least gratitude for the attentions paid to them or given notice to the Native doctors of their intended departure.

In point of comfortable accommodations the sick are certainly well provided for; the situation of the hospital is in every respect highly advantageous, being close to the river, and having the surrounding ground kept as clear and free from jungle as could be wished.

Burrumpooter, its rises and falls, its depth, velocity of its current, purity of its water, its breadth, best seasons for its navigation; wind almost always blows down the river —storms come on with more regularity than in the Ganges, fewer wrecks in consequence.

The Burrumpooter in front of Bishnath, although considerably contracted by its banks, is never under 800 yards in breadth in the cold season, and a mile and a half, or two miles in the rains, although both above and below not far off it extends in many places to the breadth of from three to five miles; the average rate of the current has been computed at two miles an hour in the cold weather, and at four and a half in the rains. The water during the former period is very clear and free from impurities, but when the river rises it becomes excessively

muddy—it attains its greatest height usually in July and August, falling rapidly in September and October—from December to the end of March it is lowest; in April there are frequent rises and falls, and in May the rise steadily encreases,—the average rise at Bishnath is about 35 feet, and the depth as measured by Lieut. Bigge on 26th October last, opposite cantonments, was from 3 to 5 fathoms, within 300 yards of either shore, and from 10 to 15 fathoms in the centre; these measurements were carefully taken with a regular sounding line correctly marked off, and at the time the river was at least 25 feet under high water mark. Every season new sand banks form, and the river is seldom or ever to be found running two years consecutively in precisely the same channels.

The best season for its navigation commences in October—there are seldom autumnal equinoctial gales: the shortest passages are made in the months of February and March, almost the only season of the year when westerly winds can be surely calculated on. In April and May storms are particularly prevalent towards the afternoon, and at night; although extremely violent they come on with such regularity and are usually seen at such a distance that, comparatively speaking, accidents and wrecks are of much less frequent occurrence than in the Ganges.

General description of the country in the

To the eastward of cantonments on the opposite side of the nullah there is an extensive

immediate vicinity of Cantonments, its uncultivated state possibly affecting its salubrity.

tract of reed jungle liable to inundation, which no doubt detracts materially from the salubrity of the place, but it unfortunately happens that no elevated situation in the country is without similar drawbacks.

On the north, and at the back of cantonments there is a tree jungle of considerable extent, partially cleared, which, it is to be hoped, may soon be brought completely under cultivation, as until such be the case it is doubtful whether it may not in its present state give rise to more noxious exhalations than if left unreclaimed altogether. There are at present not more than about 20 convicts available for clearing of jungle, and for keeping the roads and drains in repair, a number totally inadequate for the purposes required.

Behind this belt of jungle are the celebrated Bishnath plains of immense extent, formerly well stocked with game of all descriptions. A few years ago flocks of red deer, varying in number from 5 to 7 or 800, might always be seen ; now they have become more scarce, having retired to a greater distance inland where they are less liable to be disturbed.

Breadth of the valley of Assam opposite Bishnath.

The valley of Assam, opposite Bishnath, is said to be about 50 miles broad. The Duffalo hills behind being about 40 miles distant, and the Meekur hills in front eight or ten.

The Giant's Peak, estimated by Captains Jones and Wilcox at 21,000 feet high, and the

snowy range of the Himalayas are objects of admiration every clear morning throughout the year.

Neighbouring hills possess no recommendations as sites for a Sanatarium.

None of the neighbouring hills possess any recommendations as sites for a Sanatarium, the climate being remarkable for its changeableness, and access to them being next to impossible from the distance to be travelled through swamps and jungles, and from the being inhabited by fierce and treacherous tribes, highly jealous of the visits of strangers.

Sudder Bazar —amount of the population.

The Sudder Bazar at Bishnath consists of about 140 houses, containing from 6 to 700 inhabitants, the men of the regiment, camp-followers, &c., usually at head-quarters may amount to 1000, giving a total of 1700 persons.

Its bad situation a probable cause of increase of sickness.

The present site of the bazar is most wretched, cramped upon the edge of the nulla, the people are crowded together in a manner highly prejudicial to their health, and are sometimes for a fortnight together obliged to move about from house to house in canoes when the river rises very high; the Regimental Bazar being above high water mark, is not subjected to this inconvenience.

Causes preventing its immediate removal to a better situation.

A more desirable situation on the west side of Cantonments is likely to be fixed on, but such is the apathy of the natives themselves, and the disinclination evinced by them to adopt any improvements even for their own benefit when attended with any expense however trifling, that

the proposed transfer of the bazar cannot all at once be effected.

Description of the houses in the Bazar and country generally.

The houses in the bazar, and those all over the country, are made of bamboos, reeds, and grass, a few are plastered over with clay; those in low situations are raised several feet above the level, of the ground, with mud and clay, they resemble in size the huts of the corresponding ranks in Bengal, but none of them have the circular hog-back shaped chopper which is the favourite mode of the latter, and the villages and houses in general are so surrounded by dense jungle, that strangers unacquainted with the habits of the people, might pass close to a considerable village or collection of houses without ever seeing one of them; this singular custom greatly detracts from the thriving and cheerful aspect that many parts of the country might otherwise exhibit.

Principal trade in the hands of native merchants, inhabitants of Marwar and Ajmeer.

Almost all the trade of the country is in the hands of a set of merchants, called Razas, natives of the Marwar territory, who are dispersed all over the province and make advances either in money or salt to the villagers for the different products of the country. They are also to be found near all the passes from the hills, by which means they procure ivory, gold dust and other valuables in exchange for salt, muslins, chintzes, brass pots, &c. Their profits in this manner would be enormous were there not so many of them to be divided among. It is much to their credit that complaints for the non-fulfilment of their engagements are rarely brought

against them, while Bengalies, under similar circumstances, are considered as a curse wherever they settle themselves.

They convey their merchandize in enormous canoes called hoolungs, capable of containing from 40 to 100 maunds, they are admirably calculated for the river, as with five men they can be pushed along by bamboo poles at the rate of 8 or 10 miles a day, with tolerable certainty, when other boats make little or no progress during the rains, on account of the rapidity of the current, there being no tracking ground, and continued easterly wind which may be said to prevail for nine months of the year.

Seasons, the division into wet and cold applicable to Assam.

The late Dr. Leslie, from whose statistical report of Gohattie I have copied a table of the annual range of the thermometer during the day time, (having never kept one myself so correctly) justly observes—"The seasons in "Assam may be divided into the cold and "wet; for in April and May the rains com- "mence with intervals of fine weather. During "July, August and September the heaviest "showers fall, but even in these months there "are dry days, and the rain seldom falls for 24 "hours without intermission and scarcely ever "for two days."

The first approach of the cold weather is generally perceived about the middle of October, when the mornings and evenings become delightfully cool, but the sun during the day continues intensely hot, fogs now and then occasionally

come on and at a more advanced period from December till March, they are of daily occurrence, often not clearing off till 10 or 11 o'clock. November and March are I think the two pleasantest months in the year, as the heat and cold are then most comfortable to the feelings; in December, about Christmas time, and often in February, rain falls, causing a disagreeable sensation of cold, which is not indicated by the Thermometer.

Throughout the year the nights are tolerably cool, and perhaps with the exception of six or eight in a season, do not prevent people resting with moderate comfort.

The annual mean temperature by Doctor Leslie's report is 72° 86.

Table shewing the mean and extremes of temperature throughout the year.

January extremes	48° to 73°	Mean Temperature	58°	15
February ditto	48° to 80°	Mean ditto	60°	7
March ditto	52° to 90°	Mean ditto	72°	9
April ditto	60° to 90°	Mean ditto	74°	8
May ditto	60° to 92°	Mean ditto	76°	48
June ditto	70° to 91°	Mean ditto	76°	5
July ditto	76° to 88°	Mean ditto	82°	15
August ditto	74° to 91°	Mean ditto	81°	52
September ditto	70° to 90°	Mean ditto	81°	55
October ditto	67° to 87°	Mean ditto	77°	45
November ditto	58° to 81°	Mean ditto	71°	0
December ditto	49° to 73°	Mean ditto	61°	98

By the above table the extreme range of thermometer at Gowahattie appears to have been from 49° to 92°, but at both Bishnath and Somhauth, although not able to give the dates, I have more

than once seen the thermometer point at 45° and 98°.

With regard to the climate of Assam great difference of opinion exists, some affirming that in point of salubrity it is on a par with any in Hindoostan, or at least Bengal, while others judging from their own cases, describe it as realizing in its deleterious nature the reports they had already heard, of its resembling closely that of Arracan.

Climate neither so good or so bad as it has been represented, but better than could be expected.

As is usual in most cases when great differences of opinion are entertained, the truth lies between the two extremes.

The climate in reality is much better than could be reasonably expected judging from the general appearance of the country when the elements of malaria such as extensive marshes, deep jungle, and rich alluvial soil liable to inundation, every where abound, added to which the moist and warm state of the atmosphere, of itself said to be the medium in which miasmatous influence acts most injuriously on the human frame, lead one to anticipate the frequent occurrence of such diseases as are usually prevalent under similar circumstances, which is truly the case in Assam as will afterwards be shewn when noticing the prevailing diseases of the province.

During five months of the year, from November to April, and in very healthy seasons, the latter half of October and part of April may be

Seasons of the year when military operations can be conducted with safety.

included, active operations may be carried on in the field in most part of the country by either Europeans or Sepoys with comparative impunity; but as it frequently happens from unforeseen and unavoidable circumstances, that military operations are sometimes necessarily undertaken in the rains or not completed within the proper time, the most melancholy effects result, few if any escape attacks of fever of the most dangerous type, often proving fatal within 3 and 4 days, leaving those who escape with their lives miserable sufferers for years from a complication of diseases and an annoying tendency to relapses from the slightest exposure.

These remarks more particularly apply to the diseases contracted in the neighbourhood of the hills and passes into the country, which unfortunately are the usual scenes of military operation.

Circumstances under which good health may be enjoyed.

Europeans, or natives, in comfortable circumstances, whose employments do not oblige them to be much exposed to the vicissitudes of climate or to travel through uncultivated parts of the country at unhealthy periods of the year, usually enjoy excellent health, provided they did so previous to their entering the country, but I have seldom known a case of a delicate subject continuing for any length of time in the province without complaining of a sensation of languor and debility, such as he never experienced in Upper India, where the range of the thermometer attains to so much a greater height.

Another characteristic of the effects of climate equally applicable to Europeans as well as the Native Soldiers is the extreme tediousness of convalescence, and tendency to relapses that exist in many cases after severe illness,—caused no doubt by mental depression, great desire to leave the country, the want of a succession of novel and exciting objects, change of scene, &c., and from their continuing probably under the influence of the predisposing cause of complaint, which however desirable to be avoided, cannot always be accomplished.

Tedious convalescence a characteristic of all severe illnesses, its causes attempted to be pointed out.

European children thrive remarkably well; the chief disease they are annoyed with is worms, which often induce attacks of fever and bowel complaint, from which they speedily recover on the expulsion of the exciting cause.

The soil in the neighbourhood of Bishnath, and indeed all over the country, may be said to be very rich; it is commonly of a clayey nature and in many places consists of a rich black loam —the immediate vicinity of cantonments being high ground is not celebrated for its rice crops, but is admirably adapted for the production of wheat, sugar cane, Indian corn and potatoes, &c.

General character of the soil and produce best adapted to it.

The agricultural productions of Assam are nearly the same as those of Bengal—rice, opium, Indian corn, kullai, mustard seed, sugar cane, and it is to be hoped in a few years, tea and coffee may be added to the list. Although sugar cane grows luxuriantly, the natives of the country make no other use of it than converting it into

Agricultural productions much the same as those of Bengal.

goor. Serious doubts I have heard urged against its containing a sufficiency of saccharine matter to make it a profitable speculation, and that the dampness of the climate might possibly prevent its manufacture into sugar altogether—the latter objection is also urged as to the probability of coffee ripening, but I have tasted the produce of a few bushes reared in a garden with the quality of which I was perfectly satisfied.

Climate of the tea country very bad for 8 months of the year.

The tea plant is found in a part of the country where, excepting in the cold weather, it rains almost incessantly; the greatest inconvenience to be dreaded from its culture is the mortality likely to ensue among the workmen, as assuredly for many years to come none but the wild tribes about the place have sufficient stamina to withstand the noxious nature of the climate during 8 months of the year,—but if the present experiments succeed and the jungle gets cleared away, this objection will gradually be overcome.

Horticultural productions.

All the Europe vegetables usually grown in India thrive here very well, and in the native gardens may be seen ginger, long pepper, turmeric, capsicums, garlic and tobacco in great perfection. Oranges, limes, peaches, pumaloes, jack fruit, pine apples and mangoes are all procurable in abundance when in season. All the orange species are of the finest quality, but the mangoes are seldom good, and few are found that are not already half eaten by a species of beetle with short legs, the size of an ordinary English spider. The peaches also are seldom fit to be used excepting in tarts—many of them

Fruit much destroyed by a species of beetle.

rotting on the tree before they are ripe. Pine apples are very good, but they also are subject to the attacks of large beetles that very soon destroy them.

Grain after three months keeping liable to similar destruction.

The most destructive of all insects however is a small beetle not much larger than a flea which destroys rice and wheat in large quantities if kept above three months; in consequence of their ravages it is necessary to keep the rice in husk, under which circumstances with care it may be preserved for several years.

Peculiarity in native taste with regard to fruit.

The natives prefer all fruits in the green state, when they eat them with salt by way of a relish.

Domestic animals, their value, diseases they are liable to, with native mode of cure.

The breed of cattle is very small and give little milk, they cost from 3 to 6 rupees each. The oxen and bhangies (barren cows) when fat make excellent beef,—many of the calves die before reaching maturity,—cattle are occasionally subject some years to a species of dysentery that carries them off in great numbers—the only other complaint I have observed them liable to is an ulceration and swelling of the feet in the rains which often contain maggots and causes the loss of the hoof; from this cause they sometimes die: the natives treat the complaint with applications of lime and tobacco to kill the maggots, and sometimes bind the limb up in hot sand with good effect.

Buffaloes are plentiful; males are often employed in ploughing new ground, and are worth

from 10 to 12 rupees; females sell for 20, 25 and 30 rupees.

Horses thrive very well, the common ponys are wretched creatures,—the better classes supply themselves with Bootan tanghans, which they buy from 30 to 50 rupees; an officer however can seldom procure one worthy of purchase under 80, and often as high as 120 rupees. Sheep and goats thrive well, the former are always procured from Bengal, no native ever keeps them; the latter, with a little trouble in procuring them from a distance, are cheap and plentiful. Poultry are exceedingly scarce in the neighbourhood of Bishnath, where, from some local peculiarity, they are subject to an epidemic disease which carries them suddenly off and in great numbers, elsewhere this is not found to be the case.

Local peculiarity of Bishnath, where Poultry are liable to a fatal epidemic.

Fish, when procurable, the different kinds held in most estimation.

In the cold weather fish are very plentiful and cheap, in the rains scarce; those held in most estimation are the rooie, mirga, cutla and pufta.

Wild animals common in the country.

Of wild animals Assam contains many more than its due share,—the most formidable are elephants, rhinoceroses, buffaloes, tigers, bears, leopards and hogs,—the smaller game worthy of notice are deer, hares, florikan, jungle fowl, partridges, snipe, and every variety of wild fowl.

Assam elephants undervalued,—the

The Assam elephant is generally supposed to be less hardy than those of Chittagong, from

many of them having died when newly caught and exported from the country; this prejudice against them will wear off as they become better known; in point of courage they cannot be surpassed, in appearance perhaps they are not so handsome as those brought from Chittagong, having in general smaller heads and a blown out appearance about the belly, solely attributable to the nature of the food they feed on. The usual mode of keeping them adopted by the natives is, to tie their fore-legs and leave them in the jungle during the night to partake of whatever most suits their taste.

reasons why—their good qualities and usual price.

The price of a good sporting one now varies from 3 to 500 rupees, the same animal, when newly caught, may be had for about 120 rupees, —it is considered past all danger when it has survived its capture three years,—a great majority of those which die, do so within the first six months,—great damage is committed on the crops, as may be easily conceived when visited by herds amounting to two and three hundred of them.

Tigers are very numerous, and in the wilder parts of the country where cattle are scarce, kill many of the people,—the average annual casualties by them and buffaloes in a single district, varies from 50 to 80 and 100,—many of those wounded also recover after sustaining wonderful injuries.

Tigers, numerous casualties caused by them.

The only mineral productions I am aware of as existing in the country are gold, copper, iron, lime and coal.

Mineral productions.

Gold. Gold is found in much less quantity than is generally supposed, few people now make a livelihood by washing for it, which is the more remarkable as no extra revenue is now exacted from them as in former times, when they paid thrice as much as their neighbours, besides being robbed of the fruits of their labour by the Raja and people immediately over them, which would not now be the case.

In former days no doubt it was very plentiful, when large numbers of people were forcibly employed by the Raja and rich nobles in search of it; but now no coercion being allowed, and the people having a very great aversion to hard work, which gold washing is, never think of having recourse to it, excepting when driven to it by necessity.

The Singphos and other hill tribes bring it down to Suddra in small quantities—that now found in the bazars is the produce of former years—the remains of what escaped the ravages of the Burmese, who desolated the country previous to its falling under British rule in the year 1824.

Copper. Native copper I have never seen, but it is brought down occasionally by the Abbas, who are such troublesome people to deal with, that their visits to the plains are not much encouraged.

Iron. Iron is found and worked in Upper Assam, its quality is soft, but very good—it is usually

sold in the bazar ready made up in the shape of a native spade used as a hoe.

The only shape limestone has hitherto been discovered in has already been mentioned, found as small round and oval stones washed down from the mountains. Limestone.

Coal has been found at the bottom of the Naga Hills near Rungpore, on the banks of a small river, full of rocks and water-falls, which makes its transport exceedingly difficult. 1000 maunds were once dug out in the year 1828, half the canoes employed were swamped on their return with it, and the Gentleman who superintended the operations and all the workmen employed, suffered more or less from attacks of fever and ague. Coal.

Agriculture is carried on in precisely the same slovenly manner and perhaps more so than in Bengal, no improvement in this respect having been adopted for centuries; with the exception of ploughing, the remainder of the work is left almost entirely in the hands of the women. State of Agriculture, roads and ordinary modes of carrying produce to market.

Wheel carriages are no where in use excepting under the direction of Europeans, and although their usefulness is apparent to all who behold them, there is no appearance yet of their adoption by the natives, who have been so long accustomed to carry the produce of their farms, either on their heads or in baskets with a pole over the shoulder, and by water in canoes;

that they are not likely to be generally adopted until the state of the roads throughout the country is improved. The roads in the neighbourhood of the several Stations are all excellent, but in the country are mere foot-paths, and the old grand bund roads are, in many parts, either much broken or over-run with jungle, neither would the expense and trouble of putting them in order, be rewarded by any corresponding benefit until the population and general trafic of the country greatly increase beyond what they now are.

Country so intersected with nullahs and swamps, generality of roads not available throughout the year.

The country is so intersected with nullahs and swamps that, for six months of the year, the chief communication between distant parts must always be by water, for which purpose the country canoe is admirably calculated.

State of the useful arts, their backwardness.

The useful arts, as might be imagined, are in rather a backward state. Gold and silversmith's work looks very well at a distance, but cannot bear close inspection ; the same may be said of the labours of the workers in ivory, in wood, iron and brass ; the workmanship is somewhat of the roughest, but good enough for the purposes required. All artizans whose pay is better than that of common coolies, are invariably dissipated characters, constantly under the influence of opium, and if left to themselves would dose away three-fourths of their time, and work out the remainder with very bad grace.

Principal castes, with their common employments.

" The Assamese tribes may be enumerated " as Brahmens, Koleetahs, Quoits, Jogees,

" Dooms, Koomars, Heerahs, Rochs, all profess-
" ing some corruption of the Braminical faith.
" The Robuhs and Cacharies are distinguished,
" more especially the latter, by their strength
" and industry,—they are supposed to be des-
" cended from hill tribes, are fond of good living
" and somewhat given to excess. Besides those
" just enumerated, there are several less im-
" portant sub-divisions—all are husbandmen, but
" the Jogees also wean and breed silk worms;
" the Dooms are fishers, and Koomars fashion
" earthen vessels.

" The highest class, the Ahum, to which the
" Royal family and all the old nobility belong,
" are the descendants of the conquerors of As-
" sam in the 14th century, who came from
" the Eastern country bordering on China,
" they form a limited class and profess Hin-
" dooism."*

General character of the Assamese.

The descendants of the Mussleman invaders during the reign of Aurungzebe, are termed Gooreahs, they profess Islamism; tailors and shop-keepers generally belong to this class.

The character of the upper ranks generally is, I fear, not so good as it ought to be; they oppress all under them excepting their own domestic slaves, to whom they usually are very kind; they are not as yet such adepts at intrigue and cunning as Bengallee Aumlah, but are making rapid progress in these acquire-

* Dr. Leslie's Medical Topography of Gohatti.

ments: few of the present race of Ahums can read or write very well, but all the rising generation are perfecting themselves in these accomplishments. In point of morality the upper class shew a deplorable example which the lower orders do not fail to imitate. In no other country that I am aware of, do the women take the same active lead in dissipation; they are as much addicted to the abuse of opium as the men, and in all cases where Bengalees and Hindoostanees associate with them, they never fail to be initiated into the practice.

Their great immorality.

Obscenity of their songs and dances during the Hoolee.

The obscenity of the songs and dancing during the Hoolee, requires to be heard and seen to be believed.

Former warlike character not now applicable to them.

In ancient times the Assamese were considered a warlike race, but at present it is doubtful if their martial ardor excels that of the Bengalees; yet this does not altogether arise from want of personal courage, as I have seen them in many instances attack tigers, buffaloes and other wild animals in such an open and fearless manner, that few Europeans would choose to follow their example.

Their qualification as house servants.

The boys of the country make excellent household servants until they reach the age of 18—the natural depravity of their natures then breaks forth, and they find it difficult to support themselves on 4 rupees a month; should the luckless master consent to give more, the work is then done by deputy, a younger brother or acquaintance performs it in reality, while the

other would wish to sleep all day after his debauches at night.

Hindoostanee servants dislike the country at first, afterwards never wish to leave it.

Good Hindoostanee servants object to come to or remain in the country, but after a year's residence they are loath to leave it, and sooner or later become as lazy as the Assamese themselves.

Appearance of the upper classes.

The upper classes are fair and good looking when not disfigured by the effects of dissipation; the women too are very handsome, but the better class are kept much out of sight.

Poligamy generally practised.

Poligamy is practised in all cases when it can be afforded; and in many instances when it cannot. The proportion of females to males appears to a casual observer to be as three to two, although in reality they must be nearly equal; the number of children in a family is usually from 4 to 8, but on this subject, as well as on the interesting ones of revenue prospects, the diminished prevalence of crime, and the improvements now in progress for encreasing the resources of the country, full and ample information from authentic documents are constantly given in by the proper local authorities.

Correct information on the state of crime, improving resources of the country, &c. given in by the local authorities not here alluded to.

Longevity; the probable cause of its being so rare.

The Assamese generally speaking do not attain a great age, few old men of 60 and 70 years are to be seen, the shortness of life is as much attributable to early dissipation as to the effects of climate, and taking both together into consideration, it is really surprising they live so long as they do.

Diseases.

The prevailing diseases of the country are fevers, bowel complaints, cholera, small-pox, verminous diseases, scurvy, ulcers, venereal and cutaneous complaints, rheumatism, enlargements of the spleen, goitres, elephantiasis and leprosy.

Fever.

Fevers among the natives and sepoys are exceedingly common between the months of June and October, those contracted in cantonments are often very slight; the exhibition of a single emetic or purgative with abstinence from food is sufficient to effect a cure, and many of the inhabitants of the bazar recover without taking any medicine at all.

When contracted in cantonments often slight.

When contracted near the hills invariably of a dangerous nature.

Far different however are those malignant remittent fevers contracted in the neighbourhood of the hills or in jungly parts of the country, or where the patient has been exposed to privations and fatigue without medical advice at the commencement of his illness; they are attended from the beginning with great prostration of the vital power and local congestions, especially in the head and stomach, causing either common delirium or great irritability of the latter organ: a very large proportion of these cases prove fatal. Such as recover generally require change of air, either to enable them to regain their strength or get rid of an obstinate ague in which it often terminates.

Treatment.

Mercurial purgatives and local depletions by leeches at the commencement of the disease, followed up with counter-irritants and tonics,

were the most successful means of cure had recourse to.

Continued fever is of extremely rare occurrence, generally passing speedily into a remittent type—remittents become intermittents, and quotidians pass into tertians—tertians into quartans, and vice versa, although not so frequently.

Continued fevers soon assume the remittent type.

Quotidians are by much the most numerous and easy of cure, and next to them tertians—quartans, though not unfrequent, are of rarer occurrence as a primary affection—and it is astonishing the length of time patients labour under them without suffering much in appearance, loss of flesh, or otherwise; a change of air alone in many cases effects a cure after all medicines have failed. The beneficial effects of the change are generally immediately experienced by Up-country sepoys after passing Bugwaghat near Rungpore. While such is the gratifying result observable in their cases, the very opposite effect is experienced by natives of Assam or even Bengalees assimilated to the climate; in leaving the province they seldom escape attacks of fever or dysentery which often prove fatal. Hence the aversion of the people to leave their country.

Change of air effects cure when all Medical means fail.

Favorable change often apparent immediately on quitting the province.

Agues in general readily yield to the usual means of treatment when seen early, but it unfortunately happens this is not always practicable, and when complicated as old cases always are with enlargements of the spleen, dropsical effusions, diarrhæa, dysentery, or pain-

Agues when early seen usually prove tractable.

ful affections in the bones and joints, the cure is tedious and but too often hopeless, especially at the commencement of the cold weather, when they are carried off in great numbers by dysentery.

It is no uncommon occurrence for agues ushered in with great severity, not to be succeeded by a second attack, or by a very mild one; while on the other hand some of the most harassing cases commence very insiduously, proving obstinate in the extreme.

A few days hot weather, after a short continuance of rain, never fails to produce numerous cases of fever.

Blood-letting in ague, not a favorite, though often a successful, remedy with natives.

Blood-letting in the cold stage was frequently practised in strong subjects with almost always very good success—but it is not a remedy natives are fond of submitting to under these circumstances—even some who had benefitted so much by it, preferred in subsequent illnesses, deferring it until other remedies were first tried.

Dysentery the most fatal of all diseases.

Dysentery is the disease that carries off more victims than almost all the others put together; as an acute affection in an otherwise healthy subject, it is not more fatal than elsewhere, and very few sepoys thus affected die of it—but in men of broken-down constitution, from dissipation, or other complaints, chronic and scorbutic dysentery almost invariably carries them off—especially towards the commencement of the cold weather—indeed every disease of long con-

tinuance has a tendency to terminate in this manner.

Causes for its prevalence, and why so fatal.

As in other countries the poorest and lower orders of the people are the chief sufferers, the deficiency of food and clothes, the bad quality of the food—such as stale fish, cold and indigestible fruits and vegetables—in many places bad water from the neighbouring puddle, the want of the accustomed stimulus of opium which nearly all take when they can get it, the very sudden changes of weather and wearing wet clothes account for the prevalence of the disease and for its great mortality. Such as rally and recover under even these circumstances often fall victims to relapses brought on by their own carelessness and total disregard of all warning and advice.

Opium eaters the greatest sufferers, the greatest mortality occurs among them.

Opium-eaters are much more liable to the disease than those who do not partake of it, and a much larger proportion of them die. The truth being that, in order to procure the drug, they often sell every thing they possess, and poverty alone, from its depressing influence over both mind and body, renders them liable to all diseases arising from debility. Hence the chief mortality in the jails takes place among the poorer prisoners. Men confined from 6 to 12 months for petty thefts—whose constitutions from this cause are already in many instances previously undermined—while the stouter men, such as Dakoits, imprisoned from 3 to 14 years, escape with comparative impunity, and indeed grow fat on their prison fare, which in many

cases is better than they were ever before accustomed to.

The propriety of serving out opium to prisoners, advocated by some as a prophylactic measure, objected to.

Some philanthropists urge the propriety of regularly serving out to the weakly prisoners an allowance of opium, as well as to keep them in health, as with a view to expedite their cure when ill, or convalescent—but if such be ever allowed in Assam, it will hold out such an inducement to crime, and rogues will fare so much better than honester men, that I should dread its speedily filling all the district jails, and eventually incurring great additional expense to Government.

In cases where illness was fairly attributable to this cause, and they are of very frequent occurrence, opium was invariably given in combination with other ingredients, which did not however give the same satisfaction to the patients, who, while calling out for Kanee, their own preparation of it, were not aware they were daily swallowing very considerable quantities of the drug.

The probable good effects that result from distributing an allowance of goor and lime juice in the Jails.

As there is a scorbutic diathesis very prevalent in most of the jails, a small and regular allowance of lime juice and molasses, both produced in the country and cheap articles, if served out would materially tend to benefit the health of the prisoners generally, and never as in the other case prove the slightest temptation for individuals voluntarily to get themselves committed.

Treatment of Dysentery.

Local depletion by leeches, occasional mild laxatives, ipecacuanha with bitters, and in the later stages astringents, aromatics and opiates were the means employed, which afforded most relief.

Cholera rages epidemically on an average every fourth year.

Occasional cases of cholera occur annually, and on an average it appears epidemically every fourth year; thus in 1825 it raged with uncommon mortality among the troops, then on service re-taking the country from the Burmese. Again in 1829 many thousands of the inhabitants in all parts of the country were carried off by it, and it re-appeared with considerable virulence in 1833 and 1835, but not to an equal extent as during either of the former epidemics.

Causes producing an encrease of cases and of mortality.

When this scourge visits the country several circumstances contribute greatly to encrease the mortality attending it. The fatigue and want of rest endured by the inhabitants consequent on their assembling in numbers, and sitting up for many nights in succession singing, beating drums and cymbals, &c. by way of pooja to avert the calamity, no doubt frequently induces it.

Also the loss of time allowed to elapse in their vain attempts to effect a cure, and in applying for medicines even when within their reach, and the inhuman practice, that is but too common, of thrusting the patient out of doors long before all hope of recovery is over, to prevent the possibility of his dying inside the house, by which means it would be defiled.

Such as have friends are pretty carefully looked after, and are only removed when all hopes of amendment are gone, but when the sufferer is not with his own family, he is speedily put outside, left to himself accommodated with a plentiful supply of water, of which he drinks immoderately—few under these circumstances can be expected ever to survive.

Epidemic cholera has hitherto always come from the west, and has never raged epidemically at Suddra.

It has been remarked, that epidemic cholera always comes from the west, and the probable date of arrival at Bishnath after being first heard of at Gowalpara, the frontier station of Bengal, distant about 200 miles, is from a month to five weeks, and from Gowahatti, 120 miles off, from fourteen to twenty days, proceeding upwards to Jorehauth at the same rate—spreading more rapidly along the banks of the river than towards the interior.

In none of the epidemics did their influence extend to more than 50 miles above Jorehauth, having apparently exhausted itself in the boundless tracts of almost uninhabited jungle that intervene between it and Suddra, the frontier station. The correctness of these remarks I have seen thrice verified during the epidemics of 1829, 1833 and 1835.

Small-pox raged in 1832.

Many of the inhabitants shew marks of having had small-pox—but I never saw a case of it in a ten years' residence in the province, excepting in 1832, when it raged with uncommon virulence from February to end of July. The mortality caused by it throughout the

country was very considerable, and ten out of thirty-two cases in the Regimental Hospital proved fatal.

Of these thirty-two cases eighteen were attacked with the simple form, though many of them had severe fever and a copious eruption, all sooner or later completely recovered. Of five cases of the confluent small-pox, one died and four recovered, they were all reduced to a very low state, but eventually did well after being detained in hospital many days; in several ulcers formed which bled largely—and notwithstanding the greatest attention to cleanliness —maggots were produced in these ulcers in great numbers.

Anomalous and fatal variety more resembling measles than small-pox described.

The remaining nine casualties were caused by an anomalous variety, more resembling measles than small-pox. These cases were attended from the beginning with severe fever and tendency to coma. The face in all of them was much swollen. There was a copious discharge from the nose and eyes—and of viscid saliva from the mouth, ejected with great difficulty—there was great oppression of the chest—burning sensation of the stomach and pain in the back and loins—the eruptions never proceeded further than small elevated dots similar to musquito bites—the tongue was enormously swollen and deglutition towards the close of the disease became impracticable, death took place between the fifth and eighth day—not one recovery occurred among any thus affected—to a casual observer their general appearance was less

loathsome than many of those labouring under the simple variety.

Treatment; its total want of success.

The same treatment that succeeded so well in the other cases—free purging and exhibition of mineral acids at the commencement, and tonics afterwards, had not the slightest mitigating effect in checking the disease, neither in subsequent cases had bleeding and applications of blisters any better result. In like cases among the natives, when little or nothing was done, the complaint went through a precisely similar course towards a fatal termination.

Inoculation practised chiefly by Brahmins and among their own class.

Inoculation is practised by Brahmins, but is almost confined to their own class, among whom the operation is performed without fee; but if practised on others a heavy expense is incurred, which the generality of people, in the absence of immediate danger, are by no means anxious to subject themselves to—and few ever availed themselves of the offer of vaccination made by me, not that they had any particular objection to it—but saw no reason to be in a hurry to comply with what they imagined was granting a favour instead of obtaining a lasting benefit.

Prevalence of verminous diseases.

Verminous diseases are exceedingly common, as might be expected in such a low country, where the inhabitants live almost entirely on a vegetable diet, and when the poorer classes do not every day enjoy the luxury of common salt, susbtituting for it a substance they call khar, an impure carbonate of potass procured

from the ashes of burnt plantain tree—even the better classes use it occasionally along with salt, affirming it promotes digestion and partly destroys the effluvia of tainted meat and fish, which they contrive to eat in a horrid state of putrefaction

The salt sold usually in the bazar contains one-third of river sand, even honest dealers acknowledge their being unable to sell the pure ingredient at a small advance in price. Lumbrici are the species of worms most commonly met with. I have seen as many as 25 ejected from the stomach by one emetic, and have heard of 40 and 50 being passed by stool after an active purgative. Lumbrici crawling out of the mouths of children when asleep, is quite a common occurrence. Ascarides are less frequent, but sometimes met with.

Scorbutus, the classes whom it chiefly affects.

Scorbutus is frequently seen chiefly among the lower classes arising from deficiency of nutritious food — exposure to wet and cold, &c. associated with dysentery, which it frequently is, it proves fatal to great numbers.

Tall up-country sepoys who have been accustomed to live on attah, after a few years' residence in Assam, are prone to this complaint, and soon become next to useless as campaigners in the jungle ; while they complain that rice does not afford them sufficient nourishment, they at the same time confess they can only indulge in their favourite food attah twice or thrice a week,

from its causing a sensation of heat, indigestion, and sometimes diarrhœa.

Cutaneous affections.

The same causes that produce scurvy, render cutaneous affections extremely common, the natives of the country seldom apply for medicines on this account, but sepoys often suffer great inconvenience from them when pustular eruptions break out about their loins and inside of the thighs, preventing their wearing their clothes and accoutrements.

Under a short course of purgatives and external applications, containing sulphur and borax, they disappear in a few days, but frequently return after a longer or shorter period.

Ulcers common in the jails, less so among the Troops.

Small ulcers in the legs are commonly met with in the jails during the rains; they sometimes speedily heal up and break out in another part; their usual commencement is as a small boil, the persons so affected are often otherwise out of health, and as it improves, and the cold weather sets in, the sores heal up; they do not often degenerate into large ulcers. Jail patients with this complaint, require to be narrowly watched, as nothing is more common than for them to apply irritating substances to the sores, preferring the rest and quiet in hospital to healthful exercise on the roads.

Treatment.

The moderate use of laxatives, tonics, and nitric acid internally — and stimulating local applications seemed to be the readiest mode of cure.

Sepoys are not much troubled with these small ulcers, but suffer a good deal during the rains from ulcerations between the toes which often cause considerable pain, swelling and constitutional derangement, portions of the thick skin from the soles of the feet come away, and the patient may be unable to walk for a fortnight or three weeks, poultices are often necessary at the commencement to allay pain, and afterwards absorbent powders, burnt alum—balsam of Peru is an excellent application in all such instances. In slight cases and healthy subjects, rest and attention to cleanliness soon effects a cure.

Ulcerations between the toes, a troublesome complaint, sepoys more liable to it than natives.

The Assamese are not often attacked in this manner.

Sympathetic buboes in the groin and armpits are also common, and often suppurate from not being seen in time—it is difficult to account for their great frequency, as they are often met with among the young and vigorous as with those bearing marks of a scrofulous habit.

Sympathetic bubos very common and difficult to be accounted for.

When seen early, they quickly disappear under the use of leeches and cold lotions, but in many cases they have proceeded too far towards a state of suppuration to prevent its taking place. Now and then they assume an indolent state, requiring the use of blisters and mercurial frictions. The natives of the country are less liable than sepoys to this complaint.

Venereal complaints and gonorrhœa are prevalent at all the stations—the natives say the

Venereal complaints and gonorrhœa.

former first became common soon after the Burmese invasion in 1818, and the name they gave it (Maunghao,) Burmese sore, seems to confirm the truth of their assertion; the most lamentable cases of secondary syphilis may be constantly seen, and the wretches labouring under it have seldom patience to undergo a proper course of medicine, although in many cases they have been furnished for this purpose with food, clothes, and lodgings by charitable friends.

In the Regimental Hospital a gentle alterative course, with sarsaparilla in these cases, was always gone through.

From the relaxing effects of climate the cure of gonorrhœa is extremely difficult—the most trifling errors in diet, riding on horse-back or on elephant, are sufficient to cause a relapse after a fortnight or three weeks apparent cure; this tendency is less apparent in the cold weather, when such cases do well.

Rheumatism, its chief peculiarity, its intractability seldom yielding to any thing but change of climate.

Obstinate rheumatism, though a rare complaint with the natives, is by no means so among the sepoys and other foreigners living in their country. It frequently follows attacks of fever, venereal, and from the effects of cold—its chief peculiarity is its remarkable obstinacy, seldom yielding to any mode of treatment from whatever causes it may have arisen—patients who have for months undergone every variety of means for effecting a cure with but partial benefit, always recover by change of air for a few months.

Enlargements of the spleen, consequent on old agues, are very common—a great many people labouring under this affection enjoy tolerable health, and only complain of it when attacked with fever, when it enlarges and becomes painful; many children under these circumstances recover astonishingly soon without any medicine whatever, when taken into service, and are well fed and clothed.

Enlargements of the spleen often little complained of.

The tonic and purgative mode of treatment succeeds very well, but vinegar is the article of all others which natives covet in such cases as a perfect specific.

Cases of goitre, elephantiasis and leprosy are met with in all parts of the country, but not so frequently as might be expected, excepting at Suddra, where goitre certainly is remarkably prevalent.

Goitre, elephantiasis and leprosy not so often seen as might be expected.

In Assam the Medical art is at a very low ebb; there are a few Native physicians who are so perfectly satisfied with their own proficiency, that they never seek European assistance under any circumstances.

State of the medical art in Assam among the natives.

In answer to the question of how they treat their patients, the invariable reply is—"We give preparations of gold and silver with many jungle herbs besides"—luckily for the patients, no part of the gold or silver ever reaches their stomachs.

As all complaints are attributable more or less to witchcraft, the primary indication is to dispel that, and different forms of pooja and penance are the modes pursued with this view.

Although the Doctors keep their system of practice secret, if they have one—yet in a country where sickness is so prevalent for six months of the year, every old woman pretends to the knowledge of being able to cure the more common complaints, which are treated in the following manner.

Native treatment of common diseases. Fevers.

In fevers, abstinence from all food, thirst allayed by milk and water, sweetened with goor and seasoned with ginger—cold applications to the head, (generally some mashed vegetable substance,) when symptoms of recovery begin to shew, a little rice and dhall are allowed, but fish and vegetables are forbid until convalescence is completed.

Dysentery and cholera.

In dysentery and cholera opium is their chief resource, and black pepper is given in considerable quantity made into pills with certain jungle leaves—cold applications are also applied to head and stomach in cholera.

Small-pox.

In small-pox, the patient is judiciously kept in the coolest place procurable—great care is taken that he sees no one dressed in any colored clothes, every thing must be white; what little jewellery there may be in the family is also spread out on a cloth before the invalid. All

the wild tribes in the neighbourhood immediately desert those affected to their fate and do not return until all cause for alarm has passed.

Worms.

In worms, the natives are aware of the good effects of pomegranate bark which is used by them for their expulsion—they also say a decoction of the roots of the common chopper grass produces similar good effects.

Wonderful recoveries often take place after apparently fatal injuries.

In surgery, nature works wonders—some of the recoveries after injuries by buffaloes and tigers are astonishing—under similar circumstances no European could have survived. Rest—a little laxative medicine, keeping the wounded parts clean, and in position, were all that was usually necessary—bruises and smaller injuries are immediately smeared with lime, which all carry about with them in their farm boxes—it serves the triple purpose of easing pain and heat, and of making a great display in the event of their having a complaint to make.

Conclusion—recommending that 15 years Assam servitude should be allowed to count with natives as 20 elsewhere.

Should subsequent experience confirm the truth of the remarks now made on the nature of the climate, and the numerous occasions occurring in which it is absolutely necessary for troops to be exposed to its noxious influence, by which their constitutions suffer irreparable injury, be kept in mind, perhaps the claims of sepoys physically unfit for further service, who have served 15 years in Assam (most certainly equivalent to 20 anywhere else) might meet with the favourable consideration of Government if

the hardship of their case was fairly brought to its notice.

As this boon might only be extended to those whose complaints were contracted in the country, and whose incapacity for further service is solely attributable to the effects of its climate, the indulgence would be thankfully received by them and be attended with a very trifling expense to the State.

BISHNATH, ASSAM,
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